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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,860	12/12/2001	Chih-Hui Hsia	FCI-2634/EL-8052C	3260

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EXAMINER	
ABRAMS, NEIL	
ART UNIT	**PAPER NUMBER**
2839	

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/015,860	HSIA ET AL.	
	Examiner	Art Unit	
	Neil Abrams	2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *29-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *29-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 29-32 of this application have been copied by the applicant from U. S. Patent No. 5,709,568. The claims are not patentable to the applicant for the reasons below.

An interference cannot be initiated since a prerequisite for interference under 37 CFR 1.606 is that the claim be patentable to the applicant subject to a judgement in the interference.

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 29-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 5,713,747 in view of Le et al. (US 5,038,308).

Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Regarding claims 29-30, claims 1-3 of U.S. Patent No. 5,713,747 disclose an assembly of stacked memory card connectors, comprising a main circuit board (mother board), first and second memory cards having a plurality of inwardly and outwardly extending pins (contact tails); an electrical conductive means comprising a second circuit board (daughter card) perpendicular (vertically positioned) to the main circuit board, and a female connector means (card edge connector). The claims of U.S. Patent No. 5,713,747 do not disclose the plurality of contacts in the card edge connector. Le et al. disclose in Figure 7 a daughter board 201 with contacts on the bottom (not labeled) which mate with corresponding contacts of the card edge connector 264,266. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include contacts as taught by Le et al. in the connector assembly of U.S. Patent No. 5,713,747 so that the daughter card and mother board can communicate and send signals.

4. Claims 31-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 5,713,747 in view of Le et al. as applied to claims 29-30 above, and further in view of Sakamoto et al. (US 4,964,806).

Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Regarding claim 31, the claims of U.S. Patent No. 5,713,747 do not disclose the plurality of holes in the daughter board. Sakamoto et al. disclose in Figure 2 a

connector arrangement wherein the daughter board includes through holes 7a, 7b which correspond to the connector pins so that the conductor pins can make contact with the conductive patterns of the daughter board. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include through holes as taught by Sakamoto et al. in the connector assembly of U.S. Patent No. 5,713,747 so that the conductor pins can make contact with the conductive patterns on the daughter card.

Claim 32 is rejected for the same reasons as claims 29-31 above.

5. Claims 29-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,386,909 in view of Ansell et al. (US 4,862,327) and Le et al. (US 5,038,308).

Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Regarding claims 29-30, claims 7 of U.S. Patent No. 6,386,909 disclose a connector apparatus, comprising a pair of stacked card connectors mounted to a main circuit board (mother board), each having a plurality of terminals (contact tails); at least one circuit board (daughter board) engaging the plurality of terminals and arranged generally transverse (vertically positioned) to the main circuit board; and a card edge connector secured to the main board to receive the daughter board. The claims of U.S. Patent No. 6,386,909 do not disclose that the stacked card connectors are "memory cards", nor do the patented claims disclose the plurality of contacts in the card edge

connector. Ansell et al. disclose in column 1, lines 17-21 that adapter cards are typically used for memory expansion. Ansell et al. also disclose in column 3, lines 10-23 that adapter slots and connectors are typically arranged to accept edge connections (contact tails) on adapter cards so that the cards can be coupled through the socket to the wiring on the extender (daughter) card. Le et al. disclose in Figure 7 a daughter board 201 with contacts on the bottom (not labeled) which mate with corresponding contacts of the card edge connector 264,266. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the connector assembly of U.S. Patent No. 6,386,909 and provide additional memory via their adapter cards as taught by Ansell et al. in order to provide memory expansion for the device and thus run more applications. It further would have been obvious to a person having ordinary skill in the art at the time of the invention to include contacts as taught by Le et al. in the connector assembly of U.S. Patent No. 6,386,909 so that the daughter card and mother board can communicate and send signals.

6. Claims 31-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,386,909 in view of Ansell et al. (US 4,862,327) and Le et al. (US 5,038,308) as applied to claims 29-30 above, and further in view of Sakamoto et al. (US 4,964,806).

Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Regarding claim 31, the claims of U.S. Patent No. 6,386,909 do not disclose the plurality of holes in the daughter board. Sakamoto et al. disclose in Figure 2 a connector arrangement wherein the daughter board includes through holes 7a, 7b which correspond to the connector pins so that the conductor pins can make contact with the conductive patterns of the daughter board. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include through holes as taught by Sakamoto et al. in the connector assembly of U.S. Patent No. 6,386,909 so that the conductor pins can make contact with the conductive patterns on the daughter card.

Claim 32 is rejected for the same reasons as claims 29-31 above.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le et al. (US 5,038,308) in view of Ansell et al. (US 4,862,327).

Le et al. disclose in Figures 3 and 7 a connector assembly mounted on a mother board 195, comprising a connector apparatus comprising stacked card connectors 210, 212; a connection device vertically positioned on the rear side of the card connector apparatus comprising a daughter board 201 having circuit pads on its bottom region (see Figure 7) and a card edge connector 262,264, wherein the card edge connector

has a plurality of contacts mechanically and electrically mounted on the mother board and further has a slot facing upward for receiving the bottom edge region of the daughter board, so that some signals may be transmitted between the mother board and the card connector apparatus via the connection device. See column 4, lines 49-60; and column 5, lines 37-46. Le et al. do not explicitly disclose that their card connector apparatus is a "memory card" connector apparatus, nor do they explicitly disclose the "contact tails" extending backward on the rear side of the cards. Ansell et al. disclose in Figure 2 a connector arrangement similar to that of Le et al. Ansell et al. disclose in column 1, lines 17-21 that adapter cards are typically used for memory expansion. Ansell et al. also disclose in column 3, lines 10-23 that adapter slots and connectors are typically arranged to accept edge connections (contact tails) on adapter cards so that the cards can be coupled through the socket to the wiring on the extender (daughter) card. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the assembly of Le et al. and provide additional memory via their adapter cards as taught by Ansell et al. in order to provide memory expansion for the device and thus run more applications. It further would have been obvious to a person having ordinary skill in the art at the time of the invention to provide edge connections as taught by Ansell et al. on the adapter cards of Le et al. so as to couple signals between the daughter card and the card edge connector.

9. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le et al. (US 5,038,308) and Ansell et al. (US 4,862,327) as applied to claims 29-30 above, and further in view of Sakamoto et al. (US 4,964,806).

Claim 31 adds the limitation wherein the daughter board includes a plurality of holes therein corresponding to the contact tails of the memory card connectors for receiving the contact tails therein. Although neither Le et al, nor Ansell et al. mention whether their connector system includes holes, Sakamoto et al. disclose in Figure 2 a connector arrangement wherein the daughter board includes through holes 7a, 7b which correspond to the connector pins so that the conductor pins can make contact with the conductive patterns of the daughter board. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include through holes as taught by Sakamoto et al. in the daughter card of Le et al. and Ansell et al. so that the conductor pins can make contact with the conductive patterns on the daughter card.

As to claim 32, Le et al. disclose in Figures 3 and 7 a system, comprising a daughter board 201 vertically positioned on a rear side of the electrical connector apparatus, wherein the daughter board further includes a conductive means (not labeled) adjacent a bottom edge; and a receiving connector 262, 264 mounted onto the mother board 195. See column 4, lines 49-60; and column 5, lines 37-46. Le et al. do not explicitly disclose the contact tails of the connector apparatus, nor do Le et al. explicitly disclose the spaced holes in the daughter card. Ansell et al. disclose in Figure 2 a connector arrangement similar to that of Le et al. Ansell et al. disclose in column 3,

lines 10-23 that adapter slots and connectors are typically arranged to accept edge connections (contact tails) on adapter cards so that the cards can be coupled through the socket to the wiring on the extender (daughter) card. Sakamoto et al. disclose in Figure 2 a connector arrangement wherein the daughter board includes spaced holes 7a, 7b which correspond to the connector pins so that the conductor pins can make contact with the conductive patterns of the daughter board. It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide edge connections or contact tails as taught by Ansell et al. on the adapter cards of Le et al. so as to couple signals between the daughter card and the card edge connector. It further would have been obvious to a person having ordinary skill in the art at the time of the invention to include spaced holes as taught by Sakamoto et al. in the daughter card so that the conductor pins can make contact with the conductive patterns on the daughter card.

Any inquiry concerning this communication should be directed to Neil Abrams at telephone number (703) 272-2089.

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